Is the household food waste bin a source of potential health impacts?

Other

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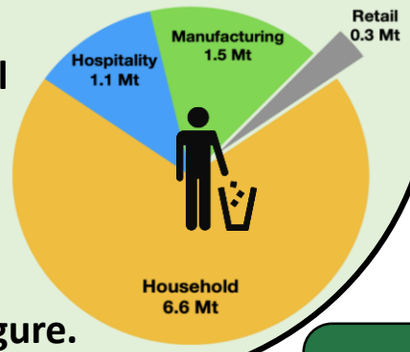
1. Food waste – The problem

- Food waste refers to any food and inedible part of food which is discarded or intended to be discarded.
- Globally, 1/3 of total food production made for human consumption is wasted yearly[1].
- Food waste is responsible for 6% of global greenhouse gas emissions[2].
- In UK, almost 10 million tonnes of food is wasted with a value of over £30 Billon.
- UK households alone generated 6.6 Mt of food waste in 2018[3] as shown in figure.



2. The Impacts of food waste

- Indoor storage
  - Increase microbial contaminations inside homes
  - Emission of airborne microorganisms (Bioaerosols)
- Collection
  - Type of waste containers, collection vehicles and transferring activities generate bioaerosols.
- Processing
  - Bioaerosols emissions from composting, anaerobic digestion and landfilling sites.

It may cause allergic and respiratory disorders in the householders.

Bioaerosol exposures cause respiratory and infectious diseases in waste management workers[4].

Bioaerosol emissions?

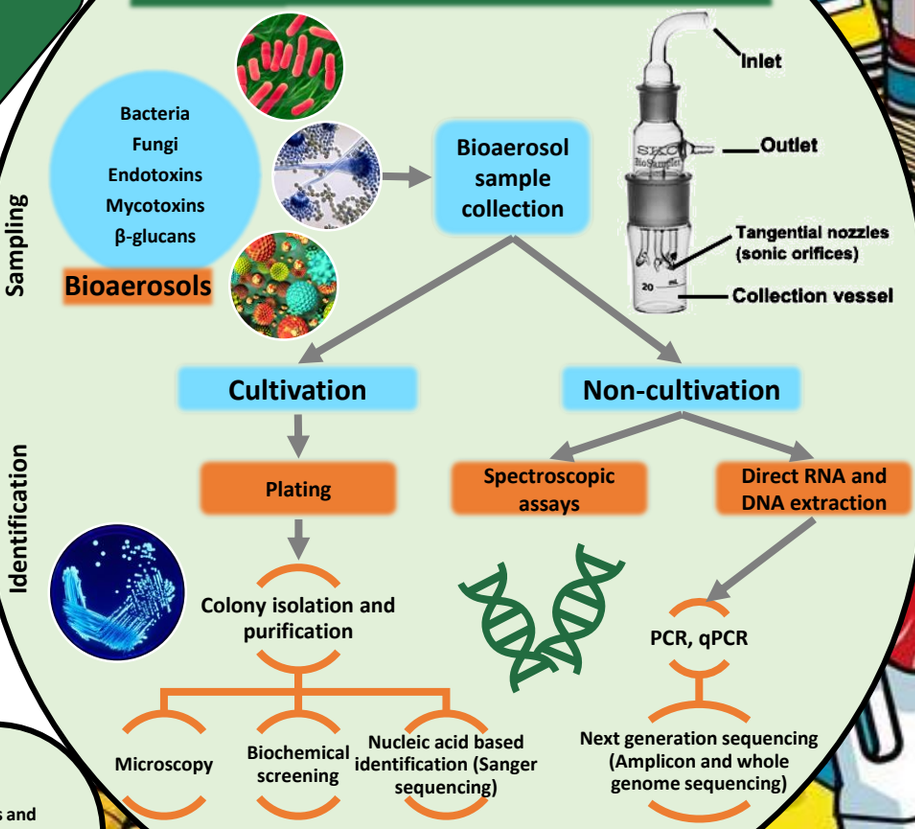
Microbial composition?

Health hazards?

3. Project objectives

- Microbiological characterisation of food waste materials in the laboratory including identification of pathogens.
- Understanding the role of microorganisms in the breakdown of the food waste materials.
- Identification and measurement of biological agents arising from household food waste that can cause health problems in key-populations (householders, waste handlers).
- Determination of potential exposure routes of bioaerosols for the householders and waste handlers.
- Provision of information regarding risk and health issues for the waste industry in terms of separate storage, collection and processing of food wastes.

4. Methodology



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